

Appl. No. 10/634,196

Reply to Office Action of December 16, 2005

REMARKS

Applicants have received and reviewed an Office Action dated December 16, 2005. By way of response, Applicants have canceled without prejudice claims 5-11 and 34 and amended claims 1, 28, and 29. Claims 1-4 and 13-33 are pending. No new matter is presented. Applicants submit that the pending claims are supported by the specification.

For the reasons given below, Applicants submit that the pending claims are in condition for allowance and notification to that effect is earnestly solicited.

Claim Amendments

Applicants have amended claims 1, 28, and 29 to recite a composition comprising "about 0.005 to about 20 wt-% fatty acid antimicrobial agent." This recitation finds support in the specification at least at page 12, lines 20-21.

Applicants have amended claims 1, 28, and 29 to recite a composition comprising "about 0.1 to about 10 wt-% alkoxyated amine." This amendment finds support in the specification at least at page 11, lines 3-4.

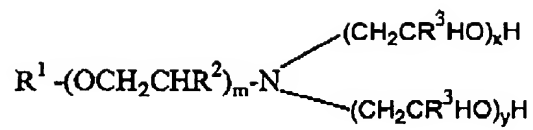
Applicants have amended claims 1 and 28 to recite a composition comprising "alkoxyated amine and fatty acid antimicrobial agent at a ratio in the range of about 1:1 to about 9:1." This amendment finds support in the specification at least at page 12, lines 14-15.

Applicants have amended claim 1 to recite a composition comprising "alkoxyated amine comprising: C₁₂ to C₁₄ propoxy amine ethoxylate of the formula: R-(PO)₁₀N[EO]_{2.5}-H[EO]_{2.5}-H; C₁₂ to C₁₄ propoxy amine ethoxylate of the formula: R-(PO)₅N[EO]_{2.5}-H[EO]_{2.5}-H; C₁₂ to C₁₄ propoxy amine ethoxylate of the formula: R-(PO)₂N[EO]_{2.5}-H[EO]_{2.5}-H; poly (5) oxyethylene isodecyloxypropylamine, which has a branched C₁₀H₂₁ alkyl group off the ether oxygen; iso-(2-hydroxyethyl) isodecyloxypropylamine, which has a branched C₁₀H₂₁ alkyl group off the ether oxygen; or mixture thereof." This amendment finds support in claim 7 as originally filed.

Applicants have amended claim 28 to recite a method of reducing microbial population on an object, comprising contacting the object with a composition comprising an alkoxyated amine being ether alkoxyated amine of Formula III:

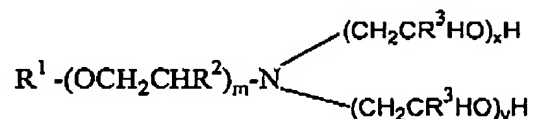
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This amendment finds support in claim 6 as originally filed.

Applicants have amended claim 29 to recite a composition comprising "ether alkoxyated amine of Formula III:



wherein R^1 is a straight or branched alkyl or alkylaryl; R^2 is independently in each occurrence hydrogen or alkyl from 1 to 6 carbons; R^3 is independently in each occurrence hydrogen or alkyl of from 1 to 6 carbons; m is about 1 to about 20; x and y is each independently 1 to about 20; and $x+y$ averages from about 1 to about 40." This amendment finds support in claim 6 as originally filed.

Claim Rejections Under 35 U.S.C. § 103(a)

The Examiner rejected claims 29-34 under 35 U.S.C. § 103(a) as being obvious over Smith et al. (US 6,617,303) in view of Baker et al. (US 2002/0119907) or Hei et al. (US 2002/0072288). The Examiner rejected claims 1-7, 13-17, 19, 20, 22-26, and 28-34 under 35 U.S.C. § 103(a) as being obvious over Man (US 6,425,959) in view of Baker et al. or Hei et al. The Examiner rejected claims 1-7, 13-17, 19, 20, 22-26, and 28-34 under 35 U.S.C. § 103(a) as obvious over Baker et al in view of Smith et al. The examiner rejected claims 1-7, 13-17, 19, 20, 22-26, and 28-34 under 35 U.S.C. § 103(a) as obvious over Hei et al. in view of Smith et al. The Examiner rejected claims 1, 2, 5-7, 13-17, 19, 20, 22, 24-32, and 34 under 35 U.S.C. § 103(a) as obvious over Smith et al. (US 2003/0070692) in view of Smith et al. (US 6,617,303). The Examiner rejected claims 1-7, 13-19, 22-25, and 28-34 under 35 U.S.C. § 103(a) as obvious over WO 95/04459 in view of Smith et al. (US 6,617,303). The Examiner rejected claim 21 under 35 U.S.C. § 103(a) as obvious over Baker et al. (US 2002/0119907), Hei et al., Smith et al. (US 2003/0070692), all in view of Smith et al. (US 6,617,303), as applied to the rejected claims above, and further in view of Wulff et al. (5,962,399). The Examiner rejected claim 27 under 35 U.S.C. § 103(a) as obvious over Baker et al. or Hei et al., both in view of Smith et al. (US

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6,617,303) as applied to claims 1-7, 13-17, 19, 20, 22-26, and 28 above, and further in view of Penninger et al. (US 6,228,827). Applicants respectfully traverse these rejections.

Independent claims 1, 28, and 29 recite a composition "providing a clear concentrate composition and effective antimicrobial activity." Independent claims 1, 28, and 29 have been amended to recite a composition comprising about 0.005 to about 20 wt-% fatty acid antimicrobial agent, and about 0.1 to about 10 wt-% alkoxyated amine, wherein the ratio of alkoxyated amine and fatty acid antimicrobial agent is at a ratio of about 1:1 to about 9:1.

In addition, Applicants have also added recitations regarding the type of alkoxyated amine utilized in the composition. The alkoxyated amine recited in claims 1, 28, and 29 is an ether alkoxyated amine. In claim 1, this ether alkoxyated amine comprises C_{12} to C_{14} propoxy amine ethoxylate of the formula: $R-(PO)_{10}N[EO]_{2.5}-H[EO]_{2.5}-H$; C_{12} to C_{14} propoxy amine ethoxylate of the formula: $R-(PO)_5N[EO]_{2.5}-H[EO]_{2.5}-H$; C_{12} to C_{14} propoxy amine ethoxylate of the formula: $R-(PO)_2N[EO]_{2.5}-H[EO]_{2.5}-H$; poly (5) oxyethylene isodecyloxypropylamine, which has a branched $C_{10}H_{21}$ alkyl group off the ether oxygen; iso-(2-hydroxyethyl) isodecyloxypropylamine, which has a branched $C_{10}H_{21}$ alkyl group off the ether oxygen; or mixture thereof. Claims 28 and 29 recite an ether alkoxyated amine of Formula III, as recited in the specification.

The methods and compositions in the presently claimed proportions and ratios surprisingly provide reductions in the populations of microorganisms of at least about 0.3 \log_{10} (page 5, lines 7-9). Moreover, the ratios and proportions as presently claimed also surprisingly result in a clear and stable solution (page 5, lines 17-19). As demonstrated in at least Example I, the clear and stable solutions as presently claimed results in increased antimicrobial activity and retention of that antimicrobial activity (pages 39-46). The presently claimed invention is not obvious in view of any of the cited references, either alone or in combination, as the cited references fail to teach or disclose the methods and compositions in the presently claimed proportions and ratios that have these surprising results.

For example, Smith et al. focus on cleaning (detergent performance), not antimicrobial action. Specifically, Smith et al. are directed to enhancing detergent performance by utilizing ethoxylated amine surfactants in general (col. 2, lines 20-23). Smith et al. disclose use of an anionic surfactant composition containing alkoxyated amine surfactants, such as ethoxylated

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amines (see col. 1, lines 15-20). This disclosure of the use of ethoxylated amine surfactants in general does not teach or disclose the presently claimed invention.

Baker et al. disclose a composition containing one or more "benefit agents" to disinfect, deodorize, and clean shoes (page 1, paragraph [0002], page 4, paragraph [0077]). Baker et al. disclose the use of any of a variety of disinfecting agents in combination with any surfactant (page 11, paragraph [0184], and page 28, paragraph [0396-0397]). Baker et al. fail to disclose a composition the presently claimed invention that results in a clear, stable composition and that provides antimicrobial activity.

Hei et al. teach use of surfactants in general, including anionic, nonionic, cationic, and amphoteric surfactants, etc. Hei et al. suggest the amount of surfactant should be less than or equal to 10% by weight of the composition. Hei et al. also teach in general the use of an antimicrobial carboxylic acids. The teachings of Hei et al. thus fail to disclose use of the alkoxylated amine and fatty acid antimicrobial agent in the specific amounts and ratios that result in the clear composition with increased antimicrobial activity and retention of that activity.

Man teaches an organic composition used to clean organic or inorganic soils. Man discloses use of nonionic surfactants in general, which may include alkoxylated amines. The Office Action recognizes that Man et al. do not teach the use of an antimicrobial carboxylic acid or a clear composition containing a carboxylic acid antimicrobial agent or alkoxylated amine (page 10).

Smith et al. (US 2003/0070692) (hereinafter "the '692 Smith reference") teach solid carbonate cleaning compositions. The Office Action asserts the '692 Smith reference teaches the use of alkoxylated amine surfactants in general. However, this reference does not teach the use of the specific alkoxylated amine surfactants in the amounts and ratio of alkoxylated amine and fatty acid antimicrobial agent of about 1:1 to about 9:1 as recited by the present claims.

WO 95/04459 (hereinafter "the '459 publication") fails to disclose or suggest the presently claimed invention. The '459 publication discloses a composition including a "carrier and an antimicrobial agent of octanoic carboxylic acid and a sulfur compound" (page 6, lines 24-26). The '459 publication discloses that "a specific carboxylic acid, octanoic acid when combined with a sulfur containing compound" provides sanitizing and disinfecting capabilities (page 7, lines 33-38). The '459 publication lists several important properties that a sanitizing

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agent should possess in addition to its microbial efficacy (page 3, lines 30-38, page 4, lines 1-10). Clarity and stability are not among the specifically listed properties.

In addition, Wulff et al. and Penninger et al. fail to remedy the shortcomings of these primary references.

The presently claimed invention is not obvious in view of these references. The presently claimed invention relates to a composition that includes specific amounts and ratios of a fatty acid antimicrobial agent and an alkoxylated amine, that provides a clear and stable composition clarity that produces greater antimicrobial activity (see Example 1, pages 39-46). A significant reduction in microbial population is achieved by combining the various components at certain concentrations and proportions to achieve a clear and stable composition (page 5, lines 17-19 and Example 1, pages 39-46). Moreover, embodiments of the presently claimed composition can remain stable and clear even at a temperature above 25° C (page 32, lines 17-19). All of the cited references fail to teach a combination of these components at concentrations directed to achieving a clear and stable composition that provides for antimicrobial activity. For at least these reasons, the presently claimed invention is not obvious in view of the cited references.

Accordingly, based on the foregoing differences, Applicants respectfully submit that neither reference cited in this rejection either alone, or in combination, teach or suggest the presently claimed compositions and methods. Withdrawal of these rejections is respectfully requested.

Double Patenting Rejection

The Examiner rejected claims 1-7, 13-25, and 29-34 under the judicially created doctrine of obviousness-type double patenting as obvious over claims 10-37 of U.S. Patent No. 6,593,283 in view of Smith et al. (U.S. 6,617,303). Applicants respectfully traverse this rejection.

Applicants have amended independent claims 1, 28, and 29. Should this rejection be applied to the amended claims when the claims are otherwise in condition for allowance, if appropriate Applicants will file a terminal disclaimer.

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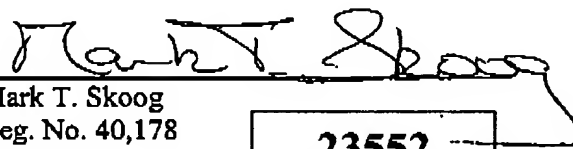
Summary

In summary, Applicants submit that each of claims 1-7, and 13-33 are in condition for allowance, and notification to that effect is earnestly solicited. The Examiner is invited to contact Applicant's undersigned representative at the telephone number listed below, if the Examiner believes that doing so will expedite prosecution of this application.

Respectfully submitted,

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Date: Apr 14, 2006


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